

Preliminary Programme – World Gold Conference 29 September–1 October 2015

Day 1 - 29 September 2015

- 07:30–08:30 **Registration opens & early morning refreshment**
- 08:30–08:35 **Emergency procedures**
- 08.35–08.45 **Welcome**
A. Swart, *Conference Chairman*
- 08:45–09:00 **SAIMM presidential address**
R.T. Jones
- 09:00–09:40 **Keynote: Gold - A key enabler of a circular economy**
M. Reuter, *Outotec*
- 09:40–10:20 **Keynote: Hero to Zero in 20 years: South Africa's gold mining industry. How come?**
P. Major, *Mining Consultant, Cadiz Corporate Solutions*
- 10:20–10:50 **Morning tea**

Session 1: Plant design and optimisation

Session Chair: L. Lorenzen

- 10:50–11:15 **Gold plant optimisation in a constrained economy**
W. van Drunick, *AngloGold Ashanti (AGA)*
- 11:15–11:40 **'Zero base' process plant design and careful risk management deliver cost savings**
W.T. Kendall, N.M. Abou Rjeily, and F.M. Morgan
- 11:40–12:05 **Innovative technologies for the improved pre-concentration of gold-associated ores**
B.S. Clapham and E.A. Clapham, *ADP Projects*
- 12:05–12:30 **Operating costs in the gold industry - 2000 to 2014: why the increase?**
R. Dunne, W.P. Staunton, and A. Giblett, *Western Australian School of Mines, Curtin University Newmont Mining Company*
- 12:30–12:40 **Sponsor presentation—DRA**
- 12:40–13:40 **Lunch**

Session 2: General (I)

Session Chair: J. Claffin

- 13:40–14:10 **Using comminution energy intensity curves to assess efficiency of gold processing circuits**
G.R. Ballantyne and M.S. Powell, *The University of Queensland*
- 14:10–14:35 **Commissioning and ramp up of the albion process at the GPM gold project**
M. Hourn, P. Voigt, D. Mallah, and D.W. Turner, *Glencore Technology, Core Resources*
- 14:35–15:00 **A reflection on the minataur™ gold refining technology – past, present and future**
W. Bouwer, R. du Preez, and O. Bazhko, *ADP Projects Pty Ltd, Mintek*
- 15:00–15:30 **Afternoon tea**
- 15:30–15:40 **Sponsor presentation—Nalco Africa**

Session 3: General (II)

Session Chair: A. Swart

- 15:40–16:10 **Extension of the conventional gold diagnostic leach method with focus on refractory gold ores**
S. Janse van Rensburg and O. Bazhko, *Mintek*

- 16:10–16:35 **Metallurgical accounting considerations for a toll treatment campaign**
J.W. Knight and D. Clemente, *Minxcon*
- 16:35–16:45 **Closing remarks**
- 16:45–19:00 **Network cocktail**

Day 2 - 30 September 2015

- 07:30–08:30 **Registration opens & early morning refreshment**
- 08:30–08:35 **Emergency procedures**
- 08:35–08:40 **Welcome**
A. Swart, *Conference Chairman*
- 08:40–09:20 **Keynote: Optimum grind size and comminution circuit design only viable through a thorough financial analysis**
L. Lorenzen and I. Kerr, *Mintrex and Lorenzen Consultants, Mintrex*

Session 4: Exploration

Session Chair: J. Krynanau

- 09:20–09:45 **Recent gold exploration history and outlook going forward**
M. Robertson, *MSA Group*
- 09:45–10:10 **OpEx, a new, integrated, quantitative tool to optimize exploration spending and focus exploration within a mineral license**
W. Bullen, F. Bierlein, P. Kumar, H. Al Athbah, *Qatar Mining, Doha*
- 10:10–10:35 **Geodynamic setting of gold mineralisation of Nigeria and comparative exploration attractiveness in West Africa**
O. Okunlola, *University of Ibadan*
- 10:35–11:05 **Morning tea**

Session 5: Processing refractory ores

Session Chair: P. Breuer

- 11:05–11:30 **The development of gold recovery technology from pyrite-pyrrhotite-bearing ores,**
V.M. Mullov, L.V. Kin, O. DKhmelnitskaya, V.V. Lodeischikov, A.V. Byvatsev, A.V. Yevdokimov, and S.V. Petrov, *IRGIREDMET JSC*
- 11:30–11:55 **A comparison of methods for the design of pressure oxidation autoclaves**
F. Saloojee and F. Crundwell, *CM Solutions (Pty) Ltd*
- 11:55–12:20 **KellGold hydrometallurgical process for cyanide-free extraction of gold from refractory concentrates and feedstocks**
M.D. Adams, K.S. Liddell, and L.A. Smith, *Lifezone Ltd*
- 12:20–12:45 **Simulation of jarosite formation during biooxidation of refractory gold ores and its influence on cyanide consumption during gold leaching**
M. Kandengwa, R. Sandenbergh, and C. van Buuren, *University of Pretoria Biomin*
- 12:45–13:45 **Lunch**

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Session 6: Leaching (I)

Session Chair: G. Deschenes

- 13:45–14:10 **Process and cost optimized solutions for gassed agitated CSTRs**
J. Jung and W. Keller, *EKATO RMT*
- 14:10–14:35 **Improving process performance of gold cyanide leaching reactors**
M. Latva-Kokko, T. Hirsi, T. Ritasalo, and J. Tiihonen, *Outotec*
- 14:35–15:00 **Aachen Reactors™, a proven system to realise hidden economic potentials**
P. Lotz, J. van der Merwe, S. Mogashoa, S. Flatman, and R. Imhof
Maelgwyn Mineral Services Africa (Pty) Ltd, South Africa, Maelgwyn Mineral Services Ltd, UK
- 15:00–15:30 **Afternoon tea**

Session 7: Cyanide management

Session Chair: A. Ghahremaninezhad

- 15:30–15:55 **Difficulty in destroying nickel cyanide in cyanide destruction processes**
R.L. Meakin, P.L. Breuer, and G.E. Walton,
CSIRO Mineral Resources Flagship
- 15:55–16:20 **Cyanide recovery using sart - current status**
T. McGrath, A. Simons, R. Dunne and, W.P. Staunton, *Western Australian School of Mines, Curtin University, University of Lincoln*
- 16:20–16:45 **The impact of metal cyanide species on the recovery of cyanide and copper using SART**
A. Simons, P. Breuer, and R. Browner, *CSIRO Mineral Resources Flagship, WA School of Mines, Curtin University*
- 16:45–17:00 **Closing remarks**
- 19:00–22:00 **Conference dinner**

Day 3 - 1 October 2015

- 08:30–09:00 **Registration opens & early morning refreshment**
- 09:00–09:10 **Emergency procedures**
- 09:10–09:20 **Welcome**
A. Swart, *Conference Chairman*
- 09:20–10:00 **Keynote: Novel and environmentally benign processing options for low grade polymetallic base-precious metals ores**
J. Eksteen, *Gold Technology Group, Western Australian School of Mines, Curtin University*
- 10:00–10:25 **Case Study: Engineering design for a paste fill preparation plant in West Africa**
M. Swanepoel, G. du Toit, and P. Gillot
- 10:25–10:55 **Morning tea**

Session 8: Leaching (II)

Session Chair: N. Snyders

- 10:55–11:20 **Using synergy between cyanide, oxygen and lead nitrate to improve extraction and to reduce OPEX / CAPEX in processing sulphide-bearing gold ores**
G. Deschênes, *Precious Metals Processing, BBA Inc.*
- 11:20–11:45 **Gold dissolution in non-ammoniacal thiosulfate solutions: comparison of fundamentals and leaching studies**
O. Sitando, X. Dai, G. Senanayakea, H. Zhang, A. Nikoloski, and P. Breuer, *Murdoch University, CSIRO Mineral Resources Flagship*
- 11:45–12:10 **An Investigation of gold leaching in the presence of hydrogen peroxide using rotating disc electrodes**
R.M.W. Feldman and P.L. Breuer, *Evonik Industries, CSIRO Mineral Resources Flagship*
- 12:10–12:35 **A novel method for pre-treatment of gold-bearing oxide ores**
Y. Choi and A. Ghahremaninezhad, *Barrick Gold Corp., Toronto Queen's University, Kingston*
- 12:35–13:35 **Lunch**

Session 9: Carbon and resin management (I)

Session Chair: S. Janse van Rensburg

- 13:35–14:00 **Optimising carbon management in a CIP/CIL circuit – A better way to measure and manage activated carbon in the circuit**
W.P. Staunton, T. McGrath, and J. Eksteen,
Curtin University
- 14:00–14:25 **Carbon concentration measurement and control in a counter current carbon adsorption circuit – update on a recent installation at a Witwatersrand Gold Plant**
D.J. Oosthuizen and H.S. Smit, *Mintek*
- 14:25–14:50 **Gekko Systems' G-REX Ion exchange technology**
A. Lewis-Gray, M. Davies, and P. Richards
Gekko Systems Pty Ltd, CGT Ballarat
- 14:50–15:20 **Afternoon tea**

Session 10: Carbon and resin management (II)

Session Chair: S. Gray

- 15:20–15:45 **Fast payback float tails CIL carbon reactivation**
J.K. Clafin, S.R. La Brooy, D. Preedy, A. Slater, and F. Urruti, *Earendil Pty Ltd, Ausenco, Preedy Metallurgical, Nutec Bickley, Cutting Edge Engineering and Design Pty Ltd*
- 15:45–16:10 **Process for gold recovery from carbon and resin fines**
V. Bazhkoa, V. Yahorava and M. Kotze, *Mintek, Lanxess (Pty) Ltd*
- 16:10–16:35 **Effect of temperature, contact time and agitation speed during pre-treatment on elution of gold**
T.P. Oladele, C.A. Snyder and S.M. Bradshaw,
University of Stellenbosch
- 16:35–16:45 **Conference close**